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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/719,062

11/24/2003

Atsunori Tsuji

046124-5254

9116

55694

7590

11/03/2006

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EXAMINER

FLOOD, MICHELE C

ART UNIT

PAPER NUMBER

1655

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/719,062

Applicant(s)

TSUJI ET AL.

Examiner

Michele Flood

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-57 is/are pending in the application.  
4a) Of the above claim(s) 2 and 3 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1, 4, 5, 7 and 9 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of the species wherein the inhibiting means is closure of stomata of the leaves, as recited in Claims 4 and 5, and reading ofn Claims 1, 4, 5, 7 and 9 in the reply filed on August 8, 2006 is acknowledged.

**Claims 1, 4, 5, 7 and 9 are under examination.**

### ***Claim Rejections - 35 USC § 103***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 4, 5, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffmann et al. (US 5,873,196) in view of Shin et al. (US 5,459,121).

Applicant claims a method of introducing a substance into plant tissue of a plant having branches, the method comprising removing branch tissue to expose conductive tissue of a branch; contacting the exposed conductive tissue of the branch with the substance; wherein the substance is absorbed through conductive tissue of the branch

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while inhibiting means is carried out in order to inhibit transpiration through a leaf on the branch or to inhibit water requirement by the leaf. Applicant further claims the method of claim 1, wherein the inhibiting means is closure by stomata of the leaves. Applicant further claims the method of claim 4, wherein the closure is accomplished by introducing into the tissue of the leaves, a chemical which closes the stomata. Applicant further claims the method of claim 1, wherein the conductive tissue consists of vessels; and, wherein the plant is a dicotyledonous plant.

Hoffmann teaches an implantable device for the release of active substances to plants which the substance is distributed to the open pores of the plant. Any material may be used as active substance such as plant restoratives, growth regulators or nutrients (See abstract; Column 3, lines 49-54; and, Column 4, lines 18-22.). Hoffmann further teaches that low water potential inhibits the release of active compounds (See Column 1, lines 25-29.). Low water potential is caused by transpiration, which can be prevented by removing leaves or applying an anti-transpirant.

The teachings of Hoffmann are set forth above. Hoffman teaches the instantly claimed invention except for using a chemical that closes stomata as an inhibiting means. However, it would have been obvious to one of ordinary skill in the art to add the instantly claimed process step to the method taught by Hoffman to provide the instantly claimed invention because Shin teaches a method that can reduce plant water loss by closing stomata openings and reducing plant transpiration by chemical means (abstract). At the time the invention was made, one of ordinary skill in the art would have been motivated to combine the method taught by Hoffmann with the method

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taught by Shin because Hoffmann taught a device for the release of active substance into plants and Shin taught that the stomata openings can be closed by chemical means was advantageous. Thus, at the time the invention was made, one of ordinary skill art would have had a reasonable expectation of success that the combining of the method taught by Hoffman with the method taught by Shin would provide a method wherein one could close the stomata openings by chemical means to inhibit transpiration and provide a means for the administration of active substances into plant tissue, such as the agents described by Hoffman. Based on this reasonable expectation for success, a person of ordinary skill in the art would have been motivated to modify the teachings of the references.

Based upon the beneficial teachings of the cited reference, the skill of one of ordinary skill in the art, and absent evidence to the contrary, there would have been a reasonable expectation of success to result in the claimed invention.

Accordingly, the claimed invention was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, especially in the absence of evidence to the contrary.

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taught by Shin because Hoffmann taught a device for the release of active substance into plants and Shin taught that the stomata openings can be closed by chemical means was advantageous. Thus, at the time the invention was made, one of ordinary skill art would have had a reasonable expectation of success that the combining of the method taught by Hoffman with the method taught by Shin would provide a method wherein one could close the stomata openings by chemical means to inhibit transpiration and provide a means for the administration of active substances into plant tissue, such as the agents described by Hoffman. Based on this reasonable expectation for success, a person of ordinary skill in the art would have been motivated to modify the teachings of the references.

Based upon the beneficial teachings of the cited reference, the skill of one of ordinary skill in the art, and absent evidence to the contrary, there would have been a reasonable expectation of success to result in the claimed invention.

Accordingly, the claimed invention was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, especially in the absence of evidence to the contrary.

***Conclusion***

This is a request for continued examination under 37 CFR 1.114 of applicant's earlier Application No. 10/719,062. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

\* Applicant is advised that the cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site ([www.uspto.gov](http://www.uspto.gov)), from the Office of Public Records and from commercial sources. Should you receive inquiries about the use of the Office's PAIR system, applicants may be referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michele Flood whose telephone number is 571-272-0964. The examiner can normally be reached on 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terry McKelvey can be reached on 571-272-0775. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
**MICHELE FLOOD**  
PRIMARY EXAMINER

Michele Flood  
Primary Examiner  
Art Unit 1655

MCF  
October 23, 2006